UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/820,947	04/08/2004	Eric D. Brill	MS307421.1/MSFTP594US	9717

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EXAMINER
KIM, PAUL

ART UNIT	PAPER NUMBER
2161	

NOTIFICATION DATE	DELIVERY MODE
02/15/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)
	10/820,947	BRILL ET AL.
	Examiner	**Art Unit**	
	Paul Kim	2161	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 December 2007*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,5-16 and 34-38* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5-16 and 34-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1.   This Office action is responsive to the following communication: Request for Continued

Examination filed on 26 December 2007.

2.   Claims 1-3, 5-16, and 34-38 are pending and present for examination.

Continued Examination Under 37 CFR 1.114

3.   A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR

1.17(e), was filed in this application after final rejection. Since this application is eligible for continued

examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the

finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's

submission filed on 26 December 2007 has been entered.

Response to Amendment

4.   Claims 1, 2, and 37 have been amended.

5.   No claims have been further added.

6.   No claims have been further cancelled.

Claim Objections

7.   Claims 1 and 37 are objected to because of the following informalities: the recited claims fail to

recite an appropriate conjunction (e.g. "and" or "or") between the "one or more global thread properties"

and "posting-specific thread properties" in lines 7 and 6 of the respective claims. Appropriate correction

is required.

Claim Rejections - 35 USC § 103

8.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness

rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented
> and the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

9.   **Claims 1-3, 5-7, 11, 13, and 34-38** are rejected under 35 U.S.C. 103(a) as being

unpatentable over Knight et al (U.S. Patent No. 6,493,703, hereinafter referred to as KNIGHT), filed on

11 May 1999, and issued on 10 December 2002, in view of Williams et al (USPGPUB No. 2004/0210550,

hereinafter referred to as WILLIAMS), filed on 30 August 2001, claiming priority to 1 September 2000,

and published on 21 October 2004..

10.   **As per independent claims 1 and 37,** KNIGHT, in combination with WILLIAMS, discloses:

> A system that ranks search results, comprising the following computer executable
> components stored in memory:
>
> > a first component that determines relevance of respective search results associated
> > with one or more of a Usenet, a discussion thread, a blog, an archived
> > community discussion, or a chat room via one or more feature-based relevance
> > functions wherein features of the function are based at least on one or more
> > global thread properties <u>comprising at least a thread depth defined over thread</u>
> > <u>comprising at least a message core and a message body</u> {See WILLIAMS, Para. [0102],
> > wherein this reads over "[t]hese can be combined with commonplace message board attributes, such
> > as thread depth, date of post . . ."}, one or more posting-specific thread properties {See
> > KNIGHT, C9:L60-65, information is broken down and sorted into a number of subject matter areas,
> > which subject matter areas represent logical collections of content according to a (potentially
> > different) set of service provider (or user) specific rules, filters, criteria, etc"; and C11:L32-56,
> > wherein this reads over "in response to the user specified search parameters, a request is sent to
> > community search robot"}; and
>
> > a second component that generates ordered search results based on their respective
> > relevancies {See KNIGHT, C11:L53-60, wherein this reads over "a group of the same matching the
> > user's query criteria are easily and rapidly located. These entries are then transmitted to the user's
> > computer system, and presented in abbreviated listing format (i.e., author, date, excerpt from entry
> > etc.) within a group listing area"}.

While KNIGHT may fail to expressly disclose the use of thread depths in the determination of

search result relevance, WILLIAMS discloses a system wherein discussion message boards are used

comprising attributes, such as thread depth, to facilitate an algorithmic conceptual analysis. Therefore, it

would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the inventions suggested by KNIGHT and WILLIAMS.

One of ordinary skill in the art would have been motivated to do this modification in order to use thread depths in the determination of relevance for search results.

11.   **As per dependent claim 2,** KNIGHT, in combination with WILLIAMS, discloses:

The system of claim 1, the one or more global thread properties include at least one of:

a number of messages in a thread;

a thread maximal branching factor;

a thread linguistic property;

a posting depth;

a number of descendents of a posting;

a number of children in a posting;

a number of postings per time duration;

a number of newsgroups posted;

a number of postings that have no responses;

the relevant functions utilize one or more newsgroups based on a probability that a posting is relevant given the posting is from a particular newsgroup, and

a probability a posting from a particular newsgroup is relevant given a query {See KNIGHT, C11:L53-60, wherein this reads over "a group of the same matching the user's query criteria are easily and rapidly located. These entries are then transmitted to the user's computer system, and presented in abbreviated listing format (i.e., author, date, excerpt from entry etc.) within a group listing area"}.

12.   **As per dependent claim 3,** KNIGHT, in combination with WILLIAMS, discloses:

The system of claim 1, the relevance functions are generated based on one or more of scoped lexical information, a digital artifact attribute, and a source repository attribute {See KNIGHT, C9:L60-65, information is broken down and sorted into a number of subject matter areas, which subject matter areas represent logical collections of content according to a (potentially different) set of service provider (or user) specific rules, filters, criteria, etc"}.

13.   **As per dependent claim 5,** KNIGHT, in combination with WILLIAMS, discloses:

The system of claim 1, the search results are further associated with searches over data associated with one or more of a mailing list, a wiky, a web page, a database {See

KNIGHT, C15:L19-33, wherein this reads over "[t]his query is sent to community search robot 231 as noted above, so the user can query all the records in database 242 on server 220"}, or a list.

14. **As per dependent claim 6,** KNIGHT, in combination with WILLIAMS, discloses:

The system of claim 1, further comprising a function generator that creates the relevance functions based on at least one of a training set, a feature set, a probability, an inference, a classifier, a heuristic, and user specified criteria {See KNIGHT, C9:L60-65, information is broken down and sorted into a number of subject matter areas, which subject matter areas represent logical collections of content according to a (potentially different) set of service provider (or user) specific rules, filters, criteria, etc"}.

15. **As per dependent claim 7,** KNIGHT, in combination with WILLIAMS, discloses:

The system of claim 1, the relevant functions are refined based on a user's response to the ranked search results {See KNIGHT, C12:L23-28, wherein this reads over "[i]f a user responds with a reply posting to an original posting in a particular subject matter area, the present invention tags the reply posting with a parameter field specifying that the reply posting should also be classified in the same area as the original posting"}.

16. **As per dependent claim 11,** KNIGHT, in combination with WILLIAMS, discloses:

The system of claim 1, the relevance functions are generated via machine learning {See KNIGHT, C12:L18-23, wherein this reads over "the present invention also intelligently classifies and stores message by subject matter area/class/subclass in advance based on understanding the context of the posting"}.

17. **As per dependent claim 13,** KNIGHT, in combination with WILLIAMS, discloses:

The system of claim 1, the one or more feature-based relevance functions utilize a features that are obtained by extracting information from digital artifacts {See KNIGHT, C15:L19-33, wherein this reads over "[t]his query is sent to community search robot 231 as noted above, so the user can query all the records in database 242 on server 220"}.

18. **As per dependent claim 34,** KNIGHT, in combination with WILLIAMS, discloses:

The system of claim 1, the one or more features based relevance functions utilize features that comprise an occurrence of one or more of a word, a word class or a phrase in a thread position relative to a posting {See KNIGHT, C12:L16-18, wherein this reads over "each posting is sorted and/or tagged with one or more additional parameter field(s) specifying one or more categories which such posting should fall under"}.

19. **As per dependent claim 35,** KNIGHT, in combination with WILLIAMS, discloses:

The system of claim 1, the one or more features based relevance functions utilize one or more of text-based relevance scores for respective scoping or a comparison between the text-based relevance scores with different scopings {See KNIGHT, C12:L16-18, wherein this reads over "each posting is sorted and/or tagged with one or more additional parameter field(s) specifying one or more categories which such posting should fall under"}.

20.   **As per dependent claim 36,** KNIGHT, in combination with WILLIAMS, discloses:

The system of claim 1, the one or more features are based on inferred labels on edges
between a posting and one or more of its parent or child where these labels are
derived automatically from message content {See KNIGHT, C12:L23-28, wherein this reads
over "[i]f a user responds with a reply posting to an original posting in a particular subject matter area,
the present invention tags the reply posting with a parameter field specifying that the reply posting should
also be classified in the same area as the original posting"}.

21.   **As per dependent claim 38,** KNIGHT, in combination with WILLIAMS, discloses:

The system of claim 37, further comprising means for automatically training the
relevance functions from labeled data {See KNIGHT, C20:L31-35, wherein this reads over "the
present invention is self-tuning, or auto-configuring, in the sense that it intelligently monitors 'feedback' –
interests of its subscribers and uses this information to dynamically build new content of the same
nature"}.

22.   **Claim 8-9 and 12** are rejected under 35 U.S.C. 103(a) as being unpatentable over KNIGHT, in

view of Official Notice.

23.   **As per dependent claim 8,** the Examiner takes Official Notice that it would have been obvious

to one of ordinary skill in the art that "the relevance functions are probabilities that respective digital

artifacts are relevant to a search." That is, one of ordinary skill in the art would readily acknowledge that

relevance functions are simply a measure of how closely related the user's query is related to the data

source. Since Applicant has failed to traverse the examiner's assertion of official notice, it is noted that

the aforementioned common knowledge or well-known in the art statement is taken to be admitted prior

art.

24.   **As per dependent claim 9,** the Examiner takes Official Notice that it would have been obvious

to one of ordinary skill in the art that the "relevance function is defined as Relevance (V(posting, query)),

which is a relevance weight of a posting given a query, wherein function (V(posting, query) returns a set

of features and feature values for a particular posting and query." That is, since relevance functions are

simply a measure of how closely related the user's query is related to the data source, the relevant

function would necessarily contain and operate upon the variables of the "posting" and the "query."

Since Applicant has failed to traverse the examiner's assertion of official notice, it is noted that the

aforementioned common knowledge or well-known in the art statement is taken to be admitted prior art.

25.   **As per dependent claim 12,** the Examiner takes Official Notice that it would have been

obvious to one of ordinary skill in the art that the machine learning includes "a linear regression." That

is, one of ordinary skill in the art would readily acknowledge that a linear regression is a commonly used

regression method in statistics wherein it provides for a relation of the response to the explanatory

variables which is a linear function of some parameters. Since Applicant has failed to traverse the

examiner's assertion of official notice, it is noted that the aforementioned common knowledge or well-

known in the art statement is taken to be admitted prior art.

        Additionally, it is noted that because the remainder of features (i.e. "a non-linear regression, and

a support vector machine"} listed in the present claim are optionally recited within the claim, they will not

be given further consideration nor will prior art be applied for the purposes of this examination.

26.   **Claims 10 and 14-16** are rejected under 35 U.S.C. 103(a) as being unpatentable over KNIGHT,

in further view of Vanderveldt et al (U.S. Patent No. 6,266,668, hereinafter referred to as Vanderveldt),

filed on 4 August 1999, and issued on 24 July 2001.

27.   **As per dependent claim 10,** KNIGHT, in combination with VANDERVELDT, discloses:

>   The system of claim 1, the relevance functions associate relevance weights with
>   respective search results and the ranking of the search results is based on the
>   relevance weight {See Vanderveldt, C4:L43-46, wherein this reads over "allowing reduced weight for
>   synonym and possible misspelling matches"}.

        While KNIGHT may fail to expressly disclose the ranking of search results based on relevance

weights, VANDERVELDT discloses the use of reduced weights for certain matches. Accordingly, the use of

said reduced weights will result in certain matches being ranked lower than others such that lower ranked

matches are listed lower in the list. Therefore, it would have been obvious to one of ordinary skill in the

art at the time the invention was made to combine the inventions suggested by KNIGHT and

VANDERVELDT.

        One of ordinary skill in the art would have been motivated to do this modification in order to

provide the ranking of search results based on the relevance weights.

28.   **As per dependent claim 14,** KNIGHT, in combination with VANDERVELDT, discloses:

The system of claim 1, further comprising a thresholding component that defines one or
more acceptable relevance levels in order to mitigate providing non-relevant search
results to a user {See Vanderveldt, C4:L54-65, wherein this reads over "[a]fter a maximum number of
links have been followed, or the total relevance of pages indexed exceeds a threshold, the search stops
and results 0 are returned to the user"}.

While KNIGHT may fail to expressly disclose a thresholding component that defines one or more

acceptable relevance levels, VANDERVELDT discloses the use of a threshold in limiting the number of

search results returned to a user. Therefore, it would have been obvious to one of ordinary skill in the art

at the time the invention was made to combine the inventions suggested by KNIGHT and VANDERVELDT.

One of ordinary skill in the art would have been motivated to do this modification in order to limit

results to a user-designated threshold.

29.   **As per dependent claim 15,** KNIGHT, in combination with VANDERVELDT, discloses:

The system of claim 14, the acceptable relevance levels are configured for at least one of
an application and the user {See Vanderveldt, C9:L1-5, wherein this reads over "[d]epending on
the profile, the presentation will rate, weigh and organize each search to present the most relevant and
related topics of interest"}.

30.   **As per dependent claim 16,** KNIGHT, in combination with VANDERVELDT, discloses:

The system of claim 14, the acceptable relevance levels dynamically adjust based on the
user's response to search results {See Vanderveldt, C9:L18-21, wherein this reads over "[o]ver
time, the profile information database will continue to grow and become more intelligent. Therefore, each
subsequent search will become more intelligent and relevant to the previous user"}.

Response to Arguments

31.   Applicant's arguments with respect to the claim rejections under 35 U.S.C. 102(b) have been

considered but are moot in view of the new ground(s) of rejection.

Conclusion

32.   Any inquiry concerning this communication or earlier communications from the examiner should

be directed to Paul Kim whose telephone number is (571) 272-2737. The examiner can normally be
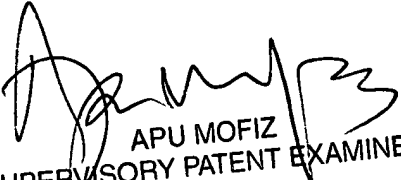
reached on M-F, 9am - 5pm.

     If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Apu Mofiz can be reached on (571) 272-4080. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

     Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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